

Serial No. 09/981,238

**REMARKS**

Claims 1-11 and 13-14 are presenting pending in the application. Claim 12 has been cancelled by this Amendment, and new claim 14 has been introduced. Claims 1 and 11 are in independent form.

Claim 11 was rejected under §112, second paragraph for having insufficient antecedent basis for "said pinion." Claim 11 has been amended to over come this rejection.

Claims 1-6 and 9-12 were rejected under §102(b) over Butkovich. The Examiner, when arguing the rejection, appears to be locating the elements of the Applicant's claims in Butkovich without regard for the structural relationship between the elements required by the claims. Accordingly, the Examiner's rejection of any of the pending claims cannot stand.

For example, the Examiner ignores that the axle housing 20 and axle shaft 26 shown in Figure 1 is not the drive system 40 depicted in Figure 3. The housing 20 and drive system 40 are remote from one another and cannot satisfy the language of Applicant's claims. Furthermore, and more significantly, the driven shaft 130 in Butkovich is coupled to a transversely arranged "axle shaft" 112 by the gear assembly 116, as shown in Figure 4. As is readily apparent from Figures 3 and 4, there is no seal between the drive shaft 130 and the housing adjacent to the bearing assembly that separates the housing into two cavities. The only seal that is arranged between the drive shaft 130 and housing is the seal 126, which is an outer seal. Accordingly, the pending claims are allowable.

Claims 7 and 13 have been amended to include a retainer that circumferentially locates the rolling elements, as is well known in the art. The addition of the retainer as an element in the claim further clarifies the meaning of cage in that the cage is not the element that circumferentially locates the rolling elements. The drawings have been amended to indicate the retainer as element 46. Similarly, paragraph 12 of the specification has been amended to number the retainer 47. The amendment to the specification and drawings to not introduce new matter as the retainer was originally shown in the drawings and is well known in the art, as evidenced by the cited references.

Serial No. 09/981,238

For the reasons set forth above, Applicant submits that the pending claims in the application are allowable. Applicant respectfully solicits allowance of these claims. If any fees or extensions of time are required, please charge to Deposit Account No. 50-1482.

Respectfully submitted,  
CARLSON, GASKEY & OLDS

William S. Gottschalk  
Registration No. 44,130  
400 W. Maple, Suite 350  
Birmingham, MI 48009  
(248) 988-8360

Dated: 1/30/03

Serial No. 09/981,238

Version with markings to show changes madeIN THE SPECIFICATION:

Please amend paragraph 12 as follows:

Referring to Figures 2 and 3, the bearing assembly 36 may include first 38 and second 40 tapered roller bearings. Each bearing includes a cone 42 secured to the driven shaft 28 and a cup 44 secured to the bearing cage 30. Rolling elements 46 are arranged between the cone 42 and cup 44. The rolling elements 46 are circumferentially located relative to one another by retainer 47, as is well known in the art. While a pair of tapered roller bearings are shown, other bearing arrangements may be used. For example, a unitized bearing assembly may be used to support the driven shaft 28 within the bearing cage 30. Unitized bearings typically include a single or common cup and a pair of cones that are secured to one another in a central region of the unitized bearing. Unitized bearings also typically include a seal between each cone and the cup at the outside of the unitized bearing to prevent ingress or egress of lubricant to and from the unitized bearing.

Serial No. 09/981,238

**IN THE CLAIMS:**

Please cancel claim 12.

Please amend claims 2, 7, 9, 10, 11 and 13 as follows:

2. (Amended) The drive axle assembly according to claim 1, wherein said axle housing includes a main housing portion supporting said axle shaft and a bearing cage removably secured to [or integral with] said main housing portion supporting said driven shaft.

7. (Amended) The drive axle assembly according to claim 6, wherein said bearing assembly includes a cup affixed to said cage and a cone affixed to said shaft with rolling elements circumferentially located relative to one another by a retainer and arranged between said cup and said cone, said seal interposed between and in engagement with said cage and said cone.

9. (Amended) The drive axle assembly according to claim 1, further including coaxial axle shafts at least partially supported within said housing, wherein said gear assembly includes a differential [connecting] coupling said axle shafts and said driven shaft to permit relative rotation between said axle shafts.

10. (Amended) The drive axle assembly according to claim [1] 14, further including a second seal interposed between said driven shaft and said housing adjacent said bearing assembly opposite said seal.

11. (Amended) A drive axle bearing cage assembly comprising:  
a bearing cage;  
a driven shaft supported by said bearing cage having a yoke at one end and a pinion at another end opposite said yoke;

Serial No. 09/981,238

a bearing assembly supporting said driven shaft in said bearing cage between said yoke and said pinion;

a first seal interposed between said driven shaft and said bearing cage adjacent to said yoke;

a second seal interposed between said driven shaft and said bearing cage adjacent to said pinion.

13. (Amended) The drive axle bearing cage assembly according to claim 12, wherein said bearing assembly includes a cup affixed to said cage and a cone affixed to said shaft with rolling elements circumferentially located relative to one another by a retainer and arranged between said cup and said cone, said seal interposed between and in engagement with said cage and said cone.

PTO/SB/97 (05-00)  
Approved for use through 10/31/2003 under the Paperwork Reduction Act.  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

### Certificate of Transmission under 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the  
United States Patent and Trademark Office

on 1/30/03 (703) 872-9326  
Date

Lesley Upton  
Signature

Lesley Upton

Typed or printed name of person signing Certificate

Note: Each paper must have its own certificate of transmission, or this certificate must identify  
each submitted paper.

Burden Hour Statement: This form is estimated to take 0.03 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.